Video Education to Promote Skin Cancer Awareness and Identification in Spanish-speaking Patients

ABSTRACT

Objective: We sought to evaluate the efficacy of a Spanish-language educational video in teaching primary Spanish speaking patients to recognize benign and malignant lesions and to increase their awareness about skin cancer. **Materials and Methods:** Thirty-seven subjects were enrolled in study. An instructional video was developed to increase knowledge of benign and malignant lesions, skin cancer awareness, and prevention among Spanish-speaking patients. Two examples each of six common skin lesions (e.g., malignant melanoma, cherry angioma, seborrheic keratosis, benign melanocytic nevus, basal cell carcinoma, and squamous cell carcinoma) were presented as high-quality images to the participants before and after watching the two-minute educational video. A pre- and postvideo survey was used to assess competency. **Results:** The prevideo baseline median score was six points (interquartile range [IQR]: 5–6 points); postviewing median score improved to 11 points (IQR: 11–12 points), which was statistically significant (Median=5 points, IQR: 4–6 points; $p<.001$). The ability of the participants to identify nonmelanoma skin cancers improved from 74 percent to 98 percent and from 35 percent to 99 percent for squamous cell carcinoma and basal cell carcinoma. Initially, only 30 percent of participants could identify melanoma prior to viewing the video. Afterwards, 97 percent of participants could identify this malignancy. However, the video format preferences were not statistically significant: 67.6 percent of the participants preferred the video format. **Conclusion:** These results suggest that this educational video is an effective and valuable method to enhance knowledge about skin health and improve identification of skin cancer among Spanish-speaking patients.

KEYWORDS: Dermatology Spanish-speaking, video education, skin cancer education

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J Clin Aesthet Dermatol. 2020;13(1):41–43

Hispanics are currently the fastest growing ethnic group in the United States (US), comprising nearly a quarter (24.4%) of the population by 2050.[1] Although malignant skin lesions are less prevalent among Hispanic individuals, when skin cancer occurs, there is often greater morbidity and mortality in this group when compared to non-Hispanic Caucasian people.[1–3] Even though Hispanic people frequently present with more advanced stages of skin cancer, they are less likely to implement methods of skin cancer prevention, such as sunscreen use, due to the perception that having a darker skin type confers a lower risk for skin cancer development.[4] Video education has been shown to be an effective method for informing individuals on skin cancer prevention and identification.[5,7] However, there is a lack of multimedia education on this topic that specifically targets Spanish-speaking patients.[3,5–7] Given the dearth of accessible Spanish-language educational materials and the need to inform Hispanic communities about skin cancer, we conducted a study to assess the effectiveness of an accessible Spanish-language educational video to increase awareness of skin cancer and improve recognition of benign and malignant lesions in primary Spanish-speaking patients.

METHODS

This study was approved by the Loyola University Chicago Institutional Review Board. Participation by subjects was strictly voluntary. All interested primary Spanish-speaking patients at a family medicine clinic (N=37) in Maywood, Illinois, were enrolled in this study. An anonymous intake form elicited basic patient data, including patient demographics, skin cancer history, full-body skin examination history, typical sunscreen usage, and knowledge about the visual characteristics

FUNDING: No funding was provided.
DISCLOSURES: The authors report no conflicts of interest related to the content of this article.
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TABLE 1. Patient Demographics and Test Performance Change

DEMOGRAPHICS	N (%)	MEDIAN (IQR)			*P*-VALUE
		PRE-VIDEO	POST-VIDEO	Δ SCORE	
Sex					0.63
Male	11 (30)	6 (5–6)	11 (10–11)	5 (4–6)	
Female	26 (70)	6 (5–7)	11 (11–12)	6 (4–6)	
Education					0.14
None through Middle School	32 (86)	6 (5–7)	11 (11–12)	5 (4–6)	
High School or College	5 (14)	5 (5–5)	11 (11–12)	6 (6–7)	
Preferred Educational Format					0.26
Written	12 (32)	5 (5–6)	11 (11–12)	6 (5–7)	
Video	25 (68)	6 (5–6)	11 (11–12)	5 (4–6)	
Fitzpatrick Skin Type					0.08
Types I – III	11 (30)	5 (4–6)	11 (11–12)	6 (5–7)	
Types IV – VI	26 (70)	6 (5–7)	11 (11–11)	5 (4–6)	
Outdoor Sunscreen Use					0.005
Never	26 (70)	6 (5–7)	11 (11–11)	5 (4–6)	
Rarely	5 (14)	6 (5–8)	11 (11–11)	5 (2–6)	
Sometimes	6 (16)	5 (5–5)	12 (11–12)	7 (6–7)	
Daily Sunscreen					0.59
No	34 (92)	6 (5–6)	11 (11–12)	5 (4–6)	
Yes	3 (8.1)	5 (5–7)	11 (11–12)	6 (4–7)	
Reapplication of Sunscreen					0.49
No	35 (95)	6 (5–7)	11 (11–12)	5 (4–6)	
Yes	2 (5.4)	5 (5–5)	11 (11–11)	6 (6–6)	

Mean age was 50.92 years (Standard deviation [SD]=10.68)
IQR=Interquartile range.
Statistical significance (*p*) for the change score among groups was computed using an exact version of the Wilcoxon rank sum test; an exact version of the Kruskal-Wallis test was used for outdoor sunscreen use.

TABLE 2. Pre and post-test percent correct for skin cancer identification.

SKIN CANCER	PRE-TEST CORRECT (%)	POST-TEST CORRECT (%)	*P*-VALUE
Basal cell carcinoma			
Picture A	49	97	<.001
Picture B	43	100	<.001
Squamous cell carcinoma			
Picture A	73	95	.01
Picture B	67	100	.004
Melanoma			
Picture A	0	97	<.001
Picture B	59	97	.001

N=37 for each comparison
Statistical significance (*p*) was determined using an exact version of the McNemar chi-square test

of skin cancer. Participants were then shown a series of 12 color images of noncancerous and cancerous cutaneous lesions on a tablet computer. For each image, subjects were asked to make a binary decision as to whether the lesion appeared to be malignant "cancer" or benign "not cancer." The 12 images consisted of two examples each of six common skin lesions (e.g., malignant melanoma, cherry angioma, seborrheic keratosis, benign melanocytic nevus, basal cell carcinoma, and squamous cell carcinoma). Afterwards, the participants were shown a two-minute educational video and surveyed again using the same 12 images. Pre- and postvideo scores were computed, with 12 points possible; one point was given for each correct answer. This Spanish video was scripted at the seventh-grade level, filmed with Hispanic healthcare providers speaking slowly, with accompanying captions to highlight key concepts. The video presented information about cancerous and noncancerous skin lesion detection, prevention, and screening.

RESULTS

A total of 37 subjects participated in the study (Table 1). Ninety-seven percent of participants reported having never seen a dermatologist. None had a personal history of skin cancer nor a family history of melanoma. Ninety-two percent admitted they never applied sunscreen during prolonged sun exposure. Of the eight percent who stated they used sunscreen, only five percent said they reapplied sunscreen when outdoors. Regarding educational format preference (video vs. written) 67.6 percent of the patients preferred video instruction. The video format preferences were not statistically significant. Pre-viewing baseline median score was six points (interquartile range [IQR]: 5–6 points). Postviewing median score improved to 11 points (IQR: 11–12 points), making the overall change from pre- to postintervention statistically significant (median=5 points, IQR: 4–6 points; $p<.001$). With regard to nonmelanoma skin cancers, squamous cell carcinoma identification improved from 74 percent to 98 percent (55/74 to 72/74), and basal cell identification rose from 35 percent to 99 percent (26/74 to 73/74). Initially, only 30 percent of subjects were able to identify melanoma prior to educational intervention. After watching the video, 97 percent could

identify this potentially deadly form of cancer (Table 2). A subject's education level and Fitzpatrick Skin Type did not correlate with score attained.

DISCUSSION

To date, little has been written about the impact or effectiveness of dermatology video education in the primary Spanish-speaking population of the US. The 2010 National Health Interview Survey revealed that only about seven percent of Hispanics reported ever having had a full-skin examination, compared to 25 percent of non-Hispanic Caucasian adults.[8] This in part helps to explain why melanoma commonly presents in a more advanced stage with higher mortality among Hispanic individuals.[9] Our educational video was effective in raising awareness about skin cancer and prevention methods while also providing participants with basic knowledge about visual features of common benign and malignant cutaneous lesions.

Limitations. Limitations of our study include the lack of a control group (i.e., a randomized design), not measuring the long-term retention of the information learned, and not characterizing the impact that viewing the video had on sun exposure and protection practices.

CONCLUSION

The use of video education in primary Spanish-speaking patients might be an effective tool to enhance knowledge about skin health and improve identification of skin cancer. Additional research with larger patient numbers, control groups, and long-term outcome measures that include degree of information retention and the effects on skin protections practices are needed to confirm our findings.

SUPPLEMENTAL VIDEO

To view the educational video used in this study, please visit https://jcadonline.com/supplemental-video-to-video-education-to-promote-skin-cancer-awareness-and-identification-in-spanish-speaking-patients/.

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